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State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-122
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CATERPILLAR, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and the exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Industrial equipment

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

Engine Family	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
YCPXL18.0HRK	18.0	1104	Engine Control Module Turbocharger Charge Air Cooler

The engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/hp-h) for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak-values from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	Exhaust Emissions (g/hp-h)				Smoke Opacity (%)		
	THC	CO	NOx	PM	Accel	Lug	Peak
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.1	1.0	6.5	0.1	18	5	32

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures—Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels—1996 and Later Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 *et seq.*).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 17th day of December 1999.

Raphael Susnowitz

for R. B. Summerfield, Chief
Mobile Source Operations Division

12/13/99

LARGE ENGINE MODEL SUMMARY

Manufacturer: **CATERPILLAR INC.**

Process Code: **New Submission**

EPA Engine Family: **YCPXL18.0HRK**

Manufacturer Family Name: **NA**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
Note: Peak HP	and Peak Torque	fuel rates are	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	TC, CAC, ECM
1 - Cert Engine	3408	750 @ 2100	301	283.5	2250 @ 1400	322	202.0	EM, DI, TC, ECM,
2	3408	725 @ 2100	284	267.2	2178 @ 1400	309	193.8	EM, DI, TC, ECM,
3	3408	700 @ 2100	281	264.5	2101 @ 1400	305	191.3	EM, DI, TC, ECM,
4	3408	675 @ 2100	267	251.7	2025 @ 1400	294	184.4	EM, DI, TC, ECM,
5	3408	650 @ 2100	253	238.5	1952 @ 1400	281	176.2	EM, DI, TC, ECM,
6	3408	625 @ 2100	253	238.4	1876 @ 1400	274	171.8	EM, DI, TC, ECM,
7	3408	600 @ 2100	234	220.0	1654 @ 1400	259	162.7	EM, DI, TC, ECM, CAC

TC, CAC, ECM